PROF DR ABDUL RAHMAN OMAR

AVIAN FLU

SHOULD WE BE CONCERNED ABOUT THE H9N2 VIRUS?

As it is a low pathogen virus, it is often undetected; that is why measures are needed to control it, since vaccination is not allowed

H9N2 is commonly found in many countries in Asia, the Middle East, Africa, and Europe. There is evidence that some H9N2 strains are present in layer chickens and this could cause a shortage in eggs. REUTERS PIC

THE avian influenza outbreak that is currently affecting commercial chickens including layer chickens (poultry that are bred for laying eggs), which is causing the shortage of eggs, is due to the H9N2 virus.

In August, Malaysia reported cases of the highly pathogenic avian influenza (HPAI) H5N1 in chickens in Sabah. It is well known that H5N1 is a disease that can cause death in chickens and fatal for humans. What about the H9N2 virus? Should we be concerned?

Unlike the HPAI, H9N2 is a low pathogenic avian influenza (LPAI) virus that generally causes subclinical or mild localised infection in chickens. Some H9N2 strains are also known to be zoonotic causing only mild respiratory illness in humans. However, the virus may contribute to emerging human-lethal viruses such as H5N1, H7N9, and H5N6, posing a substantial threat to public health. Therefore, the study of H9N2 virus deserves greater attention.

H9N2 is commonly found in many countries in Asia, the Middle East, Africa, and Europe. As it is an LPAI virus, it often goes undetected especially in countries that do not carry out surveillance. In addition, waterfowl and migratory birds harbour the virus without showing any symptoms.

Despite H9N2 being an LPAI virus, concurrent infection with other virus and bacterial agents and stressful environmental conditions, including high temperature or high ammonia levels may amplify H9N2 infection in chickens causing significant losses to poultry producers. In addition, there is also evidence showing that the virulence and potential zoonotic of the virus are associated with certain lineage of the virus. Hence, the isolated H9N2 in chickens in Malaysia should be characterised thoroughly.

More importantly, there is growing evidence that some H9N2 strains are primary pathogens in layer chickens, and they infect the reproductive tract of these birds, compromising the commercial life of the infected birds.

According to the World Organisation for Animal Health (OIE), H9N2 is not a notifiable disease. Nevertheless, countries that detect the virus need to take necessary measures to control the problem by stamping out, movement restriction, and enforcement of biosecurity measures with or without the use of vaccine depending on the country's policy.

Malaysia is one of the countries that prohibit the use of vaccine to control AIV in chickens including H9N2. Based on our past experience in controlling HPAI-H5N1 in chickens, we should be able to control H9N2 effectively without the use of vaccine.

Using vaccine to control H9N2 in chickens is a highly debated topic. There are pros and cons; and since every outbreak situation is different, there is no one method that would work in all situations. The current vaccine is based on primarily "killed" vaccine which is unable to induce complete protection, although vaccination does help to control H9N2 if used properly. Currently, countries such as China, Pakistan, South Korea and countries in the Middle East carry out vaccination to control H9N2. But, what is worrying is that vaccination is causing the virus to mutate rapidly into strains that are more difficult to control in the future.

Since vaccination against the H9N2 virus is not allowed here, how are we to control it? Are there prevention strategies? Just like other viral infection, prudent farm husbandry and strict biosecurity are crucial to safeguarding poultry farms against H9N2.

Vaccination against other diseases, curbing immuno-suppression and increasing the immunity in chickens are also very important. The use of antibiotics helps to control concurrent infection of H9N2 with other bacterial infection. However, this strategy requires proper monitoring to reduce the chance of antibiotic-resistant bacteria and also to reduce the incidence of antibiotic residues in poultry.

H9N2 is a respiratory virus that is transmitted rapidly by both the faecal-oral route and aerosol (airborne) in commercial chicken flocks. If this is left uncheck especially in poorly managed farms, the effects can be devastating. The stamping out of infected chickens may not be sustainable in the long run.

Poultry farmers must draw proper control and prevention strategy to curb H9N2 from entering their farms. Risk assessment and routine surveillance must be carried out to detect possible early infection and to take the appropriate measures to reduce losses.

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The writer is a professor of immunology and infectious diseases, and the director of the Bioscience Institute, Universiti Putra Malaysia